

**Attachment A – ACL Complaint No. R5-2016-0536**  
**Specific Factors Considered for Administrative Civil Liability**  
**California Department of Corrections and Rehabilitation**  
**Deuel Vocational Institution Wastewater Treatment Facility**

The State Water Board's *Water Quality Enforcement Policy* (Enforcement Policy) establishes a methodology for determining administrative civil liability by addressing the factors that are required to be considered under California Water Code section 13385(e). Each factor of the nine-step approach is discussed below, as is the basis for assessing the corresponding score. The Enforcement Policy can be found at: [http://www.waterboards.ca.gov/water\\_issues/programs/enforcement/docs/enf\\_policy\\_final111709.pdf](http://www.waterboards.ca.gov/water_issues/programs/enforcement/docs/enf_policy_final111709.pdf).

**Background**

The Deuel Vocational Institution wastewater treatment facility discharges treated wastewater to the Deuel Drain, a water of the U.S. The Deuel Drain is part of the Southern Delta which is listed in the 303(d) list for chlorpyrifos, DDT, diazinon, electrical conductivity, group A pesticides, invasive species, mercury, and unknown toxicity. The Discharger is regulated by Waste Discharge Requirements Order R5-2014-0014-01 (NPDES CA0078093) (WDRs or Permit) which prescribes effluent limits and other conditions that must be met in order to discharge the wastewater.

On 30 March 2015, the Assistant Executive Officer issued Cleanup and Abatement Order R5-2015-0704 (CAO). Finding 23 of the CAO describes the reasons for issuance:

The Discharger is in violation of the WDRs because the reverse osmosis treatment plant, which removes salts and therefore allows the wastewater treatment plant to comply with effluent limits, has failed to operate reliably and has remained out of service for 66% of the time since it was permitted. Without the reverse osmosis plant, the discharged effluent will likely continue to exceed chronic toxicity limits. In addition, inadequate operation and maintenance has resulted in water quality exceedances above the permitted effluent limitations. When left unaddressed, there is a likely potential that the discharges of domestic wastewater will continue to contain levels exceeding the chronic toxicity and nitrate/nitrite limits in WDRs Order R5-2014-0014-01. Requiring the Discharger to comply with this Order, including the requirement to continuously operate the RO plant and reporting obligations related to the operations and maintenance of the RO plant, are necessary remedial actions to prevent wastewater from polluting Deuel Drain and its connected tributaries.

The CAO requires that the Discharger continuously operate the RO plant and to take certain actions if it is off-line. The Discharger has generally complied with this requirement and it is not the subject of this Complaint. The CAO also required the Discharger to submit a number of technical reports, which if implemented, will bring the Discharger back into compliance with the WDRs and will allow continued, reliable operation of the Facility.

Effluent Limitations and Discharge Specifications IV.A. of WDRs Order R5-2014-0014-01 states in part: "The Discharger shall maintain compliance with the following effluent limitations..." including the limitation for nitrate plus nitrite (as N) of 10 mg/L as a monthly average and a 7-day median for total coliform organisms of 2.2 MPN/100 ml. The Discharger has not complied with these requirements, as evidenced by the ongoing effluent limit violations and chronic toxicity violations.

Standard Provision I.D of WDRs Order R5-2014-0014-01 states in part: "The Discharger shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Discharger to achieve compliance with the conditions of this Order . . . This provision requires the operation of backup or auxiliary facilities or similar systems that are installed by a Discharger only when necessary to achieve compliance with the conditions of this Order." The Discharger has delayed upgrades and maintenance to the wastewater treatment plant thereby further causing pollution to the Deuel Drain.

The Complaint has been issued because the Discharger has (a) failed to submit technical reports required by the CAO, (b) continued to discharge in violation of the effluent limits in the WDRs, and (c) failed to properly operate and maintain the wastewater treatment plant in violation of the WDRs. These three violations will be addressed separately.

<b>Violation #1: Failure to Submit Technical and Progress Reports Required by CAO R5-2015-0704</b>
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**Background for Violation #1**

The Discharger has submitted seven reports that are materially deficient and do not contain the information required by CAO R5-2015-0704. Therefore, each deficient report is a violation of the CAO. The required content of each report, as well as what was submitted, is summarized below.

1. Item #3 of the CAO required that a *RO Plant Spare Parts Status Report* be submitted by 1 May 2015. The report was to document “that the RO plant has adequate spare parts available, describe redundancy and/or features in place for continuous operation, and an action plan containing a schedule to prevent chronic toxicity when the RO plant is taken off-line for maintenance.” The Discharger submitted a document on 1 May 2015 which states that \$250,000 in funding has been secured to purchase parts, but fails to explain which spare parts are available now, which need to be purchased and when, the cost of the parts, or if adequate parts are on-site for repairs that are necessary to properly run and maintain the RO Plant. The report does not contain any information regarding the action plan and schedule to prevent chronic toxicity when the RO plant is off-line. Therefore, the report is materially deficient. The Discharger was notified of this fact in writing on 30 June 2015 and 4 September 2015. An adequate report has not been submitted.
2. Item #4 of the CAO requires that a *MBR Modules Replacement Time Schedule* be submitted by 1 May 2016. The report was to provide a time schedule for replacing the membrane bioreactor (MBR) modules, which was not to extend beyond 31 March 2016. The schedule was to include the process for all contracting actions necessary to complete the work. The Discharger submitted a document on 1 May 2015 which states that the Discharger has requested quotes; however, the Discharger failed to provide a schedule that includes the tasks to complete the MBR module replacement by 31 March 2016. Therefore, the report is materially deficient. The Discharger was notified of this fact in writing on 30 June 2015 and 4 September 2015. An adequate report has not been submitted, and as of 1 May 2016, the MBR modules have not been replaced.
3. Item #5 of the CAO requires that the Discharger update and submit the Facility’s *Operation and Maintenance (O&M) Manual and Standard Operating Procedures (SOPs)* by 1 June 2015. The purpose of the document was to “maximize efficiency of the MBR under current operating conditions such that the wastewater treatment plant effluent will meet all requirements of WDRs Order R5-2014-0014.” The Discharger submitted a document on 28 May 2015. However, it was just a copy of the 2011 O&M Manual, and was not an update as required by the CAO. The Discharger stated “A consultant has been retained to evaluate the operation of the plant. Changes to the plant and documents will be made if the consultant determines that corrections need to be made in order to improve the operation of the plant.” The CAO required an updated O&M Manual to reflect the current challenges of treating the wastewater; however, the Discharger did not submit this. Meanwhile, the Facility is not operating effectively and effluent

limits continue to exceed the permit's effluent limits. Therefore, the report is materially deficient. The Discharger was notified of this fact in writing on 30 June 2015 and 4 September 2015. An adequate report has not been submitted.

4. Item #10 of CAO R5-2015-0704 requires that the Discharger submit quarterly progress reports "describing the work completed to date to comply with each of the above requirements, as well as what work will be conducted in the next quarter."
  - a. The first progress report, covering the First Quarter 2015, was due on 30 April 2015. After receipt of a Notice of Violation, the document was submitted on 11 May 2015. However, the document described the work that had been completed under CAO R5-2015-0703, the Order issued to the Discharger for violations of the Title 27 WDRs. The report was deficient because it did not describe any of the work completed, or planned, in relation to CAO R5-2015-0704.
  - b. The Second Quarter 2015 progress report was due on 30 July 2015. The document was submitted on 30 July 2015. Once again, it contained information pertaining to the Title 27 CAO, R5-2015-0703. However, there are a few lines describing work that had been completed at the wastewater plant ("submitted purchase order request for purchase of the wastewater module membranes" and "replaced second RO train membranes") and work that will be done during the next quarter (establishing a contract with a consultant to complete Item #9 of the CDO, as well as some maintenance work at the Facility). However, the report did not contain the specificity needed to comply with the CAO and for Board staff to determine if the Discharger was making progress towards completing all of the tasks.
  - c. The Third Quarter 2015 progress report was due on 30 October 2015, but was not submitted until 27 January 2016. Again, the majority of the report described work completed in response to the Title 27 CAO. With respect to the work completed at the wastewater treatment plant, the Third Quarter progress report had the same statement as in the Second Quarter Progress Report: "submitted purchase order request for purchase of the wastewater module membranes". With respect to work that will be undertaken during the next quarter, the report had the same text as the previous report regarding establishing a contract with a consultant to complete Item #9 of the CAO. The report did not contain the specificity needed to comply with the CAO and for Board staff to determine if the Discharger was making progress towards completing all of the tasks.
  - d. The Fourth Quarter 2015 progress report was due on 30 January 2016 and was submitted on 27 January 2016. This report only described work completed in response to the Title 27 CAO. With respect to work that will be undertaken during the next quarter, the report had the same text as the previous two reports regarding establishing a contract with a consultant to complete Item #9 of the CAO. The report did not contain the specificity needed to comply with the CAO and for Board staff to determine if the Discharger was making progress toward completing all of the tasks. A review of the Second through Fourth Quarterly Progress reports shows that the Discharger has made no progress at all towards complying with the CAO.
  - e. On 5 February 2016, staff sent an email to the Discharger stating that the Quarterly Progress reports are materially deficient and do not comply with the CAO. The email gave details of what is expected in a progress report: "...for example, a completed task outlined in the CAO R5-2015-0704 should include the date it was completed and uncompleted tasks should

include detail such as a timeline, a budget if applicable, and/or any other pertinent information to allow Board staff to determine if completion is on schedule for the dates listed in the CAO R5-2015-0704. In addition, the Progress Reports should thoroughly describe all activities that were performed by the Discharger to achieve compliance with the CAO R5-2015-0704 in the previous quarter and list of steps the Discharger is taking to hasten completion of the remaining uncompleted tasks..." To date, the Discharger has not submitted adequate First through Fourth Quarter 2015 progress reports.

### **Step 1 – Potential for Harm for Discharge Violations**

The Prosecution Team is not alleging a discharge violation; therefore, the evaluation of this factor has been omitted from the following calculation.

### **Step 2 – Assessment for Discharge Violations**

The Prosecution Team is not alleging a discharge violation; therefore, the evaluation of this factor has been omitted from the following calculation.

### **Step 3 – Per Day Assessment for Non-Discharge Violations**

The "per day" factor is calculated for each non-discharge violation considering the (a) potential for harm and (b) the extent of the deviation from the applicable requirements.

#### **Potential for Harm**

The Enforcement Policy requires a determination of whether the characteristics of the violation resulted in a minor, moderate, or major potential for harm or threat to beneficial uses. In this case, a "Moderate" factor is appropriate because the submission of deficient technical reports suggests the Discharger has failed to take the necessary steps to operate the Reverse Osmosis plant in a manner that is most protective of water quality.

The Facility discharges domestic wastewater to Deuel Drain, a water of the United States, tributary to the San Joaquin River via Paradise Cut within the Sacramento – San Joaquin Delta. The designated beneficial uses of Deuel Drain that could be impacted by the discharge include municipal and domestic supply; agricultural irrigation; agricultural stock watering; industrial process water supply; industrial service supply; water contact recreation; other non-contact water recreation; warm freshwater aquatic habitat; cold freshwater aquatic habitat; warm fish migration habitat; cold fish migration habitat; warm spawning habitat; wildlife habitat; and navigation. The CAO contains requirements to submit reports to allow Board staff to evaluate whether the Discharger has taken the necessary steps to abate the ongoing pollution to Deuel Drain. The Discharger failed to submit a report that required a plan and schedule to prevent chronic toxicity when the RO plant was offline. No effort was made by the Discharger to provide an updated Operation and Maintenance Manual to maximize the efficiency of the membrane bioreactor modules. Quarterly progress reports were submitted late with little to no relevant content to determine the extent of compliance with requirements in the CAO. Meanwhile, because the Discharger failed to comply with the terms of the CAO, discharges of wastewater beyond permitted limits continued to cause pollution to the Deuel Drain. The failure to submit the required reports has an ancillary effect and/or threat to beneficial uses. The Discharger's existing operations are inadequate to meet effluent limitations in its permit. The intention behind the CAO was to require that the Discharger take short-term and long-term steps to improve its wastewater treatment system such that it could reliably comply with the effluent limits of its WDRs for the protection of the beneficial uses of the Deuel Drain. Without the information required by the reports in the CAO, the Discharger is presumed to be out of compliance with the actions necessary to abate the ongoing pollution to Deuel Drain. This

presents a substantial threat to beneficial uses. Therefore a moderate potential for harm was assessed.

A "Major" deviation from the requirement is also appropriate because the Discharger repeatedly submitted inadequate technical reports, which shows the Discharger's disregard for compliance with regulatory requirements and inability to fulfill the specific requirements outlined in the CAO thereby rendering ineffective the Regional Board's order to abate the effects of continuing pollution. Using Table 3 in the Enforcement Policy, the Per Day Factor of 0.55 is assigned. This value is to be multiplied by the days of violation and the maximum per day penalty, as shown in the Initial Liability table below.

#### Days of Violation

The Enforcement Policy provides that, for violations lasting more than 30 days, the Central Valley Water Board may adjust the per-day basis for civil liability if certain findings are made and provided that the adjusted per-day basis is no less than the per-day economic benefit, if any, resulting from the violation. In order to adjust the per-day basis, the Central Valley Water Board must make express findings that the violation: (1) is not causing daily detrimental impacts to the environment or the regulatory program; or (2) results in no economic benefit from the illegal conduct that can be measured on a daily basis; or (3) occurred without the knowledge or control of the violator, who therefore did not take action to mitigate or eliminate the violation. The Prosecution Team finds that it is possible to adjust the per-day basis for civil liability for the Progress Reports because no economic benefit can be measured on a daily basis for these reports that are considered a one-time cost.

The table below summarizes the date each required technical report was due. The days of violation are calculated from the due date of each report through 1 May 2016.

#### **Delinquent Reports**

<b>Reports</b>	<b>Due Date</b>	<b>Received</b>	<b>Status</b>	<b>Days of Violation</b>	<b>Days of Violation (including reduced days, if applicable)</b>
First Quarter 2015 Progress Report	4/30/15	5/11/15	Incomplete	366	18
RO Plant Spare Parts Status Report	5/1/15	5/1/15	Incomplete	365	365 <sup>1</sup>
MBR Modules Replacement Time Schedule	5/1/15	5/1/15	Incomplete	365	365 <sup>1</sup>
O&M Manual and SOPs	6/1/15	5/28/15	Incomplete	334	334 <sup>1</sup>
Second Quarter 2015 Progress Report	7/30/15	7/19/15	Incomplete	275	15
Third Quarter 2015 Progress Report	10/30/15	1/27/16	Incomplete	183	12
Fourth Quarter 2015 Progress Report	1/30/16	1/27/16	Incomplete	91	9
<b>Total Days</b>				<b>1,979</b>	<b>1,118</b>

<sup>1</sup> Reduction of the days of violation is not applicable.

**Violation 1: Initial Liability**

$(0.55 \text{ factor from Table 3}) \times (1,118 \text{ days}) \times (\$1,000/\text{day}) = \$614,900$

**Step 4A – Adjustment Factors**

There are three additional factors to be considered for modification of the amount of initial liability: the violator's culpability, efforts to clean-up or cooperate with regulatory authority, and the violator's compliance history. After each of these factors is considered for the violations involved, the applicable factor should be multiplied by the proposed amount for each violation to determine the revised amount for that violation.

**Culpability**

Higher liabilities should result from intentional or negligent violations as opposed to accidental violations. A multiplier between 0.5 and 1.5 is to be used, with a higher multiplier for negligent behavior. This Discharger has multiple levels of management overseeing the wastewater treatment facility, and while certain individuals have attempted to cooperate with the Board and comply with the CAO, the multi-layered management system and insufficient cross-training of personnel to run the WWTP plant appears to be a few of the key deficiencies contributing to the lack of over-all compliance. Therefore, it is appropriate to use a culpability multiplier of 1.1 for this adjustment factor.

**Cleanup and Cooperation**

This factor reflects the extent to which a discharger voluntarily cooperates in returning to compliance and correcting environmental damage. A multiplier between 0.75 and 1.5 is to be used, with a higher multiplier when there is a lack of cooperation. Prior to issuance of the CAO, Board staff met with the Discharger to try and achieve voluntary compliance. When this was not possible, Board staff afforded the Discharger an opportunity to comment on the draft CAO, and incorporated the Discharger's requests for date changes. Since issuance of the CAO, Board staff has provided two Notices of Violation and several emails relating to the inadequate technical reports. Although the Discharger persists in submitting incomplete reports, the Facility operations staff has cooperated on several occasions such as notifying Regional Board staff in a timely manner when the RO Plant was taken off-line for maintenance and conducting additional chronic toxicity testing as required by the CAO. The Discharger was given a multiplier value of 1.0.

**History of Violation**

When there is a history of repeat violations, the Enforcement Policy requires a minimum multiplier of 1.1 to be used. The Discharger has a history of violations. This includes prior administrative civil liabilities assessing mandatory minimum penalties for effluent violations of the NPDES permit (see Orders R5-2010-0549, R5-2011-0575, R5-2014-0050, R5-2014-0518, and R5-2016-0523), as well as the issuance of three Cleanup and Abatement Orders for various violations of the NPDES permit, the Title 27 permit, and the Dairy General Order.

In addition, the Discharger has history of submitting late and/or incomplete reports. For example, on 12 January 2012, the Discharger exceeded the chronic toxicity trigger level of 1 Toxic Unit Chronic (TUc) with a reported result of 1.33 TUc for *Selenastrum capricornutum*. Consequently, the Discharger initiated accelerated monitoring but was unable to achieve four consecutive accelerated monitoring tests that did not exceed the monitoring trigger. Board staff made several requests to the Discharger to

submit a Toxicity Reduction Evaluation (TRE) Action plan (26 July 2012, 26 October 2012, and 30 January 2013) as required by its WDRs; finally, on 27 March 2013 the Discharger submitted a Toxicity Reduction Evaluation (TRE) Report. In addition, the Discharger was required to submit a Salinity Evaluation and Minimization Plan by 1 December 2014. The Discharger neglected to submit the report. After several phone conversations with the Discharger; finally, on 13 January 2015 the Discharger submitted the report 42 days late. Therefore, a multiplier value of 1.4 is appropriate given the frequency of late and delinquent reporting, as well as the nature of prior enforcement actions against CDCR related to this Facility.

**Violation 1- Total Base Liability**

Initial Liability x Culpability Multiplier x Cleanup and Cooperation Multiplier x History of Violations Multiplier = Total Base Liability

$$\$614,900 \times 1.1 \times 1.0 \times 1.4 = \$946,946$$

**Violation #2: Effluent Limitation Violations from  
1 January through 30 April 2016**

**Background for Violation #2**

The intention behind the CAO was that the Discharger would take short-term and long-term steps to improve its wastewater treatment system such that it could reliably comply with the effluent limits of its WDRs. Beyond not submitted the required reports in the CAO, the Discharger has not implemented the necessary actions to improve the performance of its wastewater treatment system. It comes at no surprise that wastewater discharged continues to exceed the effluent limits in its NPDES permit.

Between 1 January and 30 April 2016 (i.e., through submittal of the most recent monitoring report), the Discharger exceeded seven effluent limits, in violation of the WDRs: five for total coliform organisms and two for nitrate plus nitrite, as listed on Attachment B. The Complaint assesses discretionary penalties for these effluent limit violations. It is noted that the Discharger also exceeded the chronic toxicity limit for eight of the eleven toxicity tests that it conducted since issuance of the CAO. The Complaint does not specifically assess liability for the toxicity limit violations; however, these violations are considered in the Potential for Harm factor.

**Step 1 – Potential for Harm for Discharge Violations**

The “potential harm to beneficial uses” factor considers the harm that may result from exposure to the pollutants in the discharge, while evaluating the nature, circumstances, extent, and gravity of the violation(s). A three-factor scoring system is used for each violation or group of violations: (1) the potential for harm to beneficial uses; (2) the degree of toxicity of the discharge; and (3) whether the discharge is susceptible to cleanup or abatement.

**Factor 1: Harm or Potential Harm to Beneficial Uses.**

This factor evaluates direct or indirect harm or potential for harm from the violation. A score between 0 and 5 is assigned based on a determination of whether the harm or potential for harm to beneficial uses ranges from negligible (0) to major (5). The Facility discharges domestic wastewater to Deuel Drain, a

water of the United States, tributary to the San Joaquin River via Paradise Cut within the Sacramento – San Joaquin Delta. The designated beneficial uses of Deuel Drain are described above in Violation 1. Discharges to surface water typically must be treated to a high standard to prevent adverse impacts to aquatic life and human health. Toxicity is the degree to which a substance can damage a living or non-living organism. Toxicity can refer to the effect on a whole organism, such as an animal, bacterium, or plant, as well as the effect on a substructure of the organism, such as a cell or an organ. In this case, the discharge consisted of partially treated wastewater. The Facility routinely exceeds the NPDES permit's chronic toxicity trigger level of 1 Toxic Unit Chronic (TUC) and according to the 27 March 2013 and 13 April 2015 Toxicity Reduction Evaluation (TRE) reports, one of the sources of toxicity in the Facility's effluent is high salinity. The wells which supply drinking water to the Deuel Vocational Institution's inmates and staff contain high salinity.

According to the Discharger's SMRs, the Discharger violated the nitrate plus nitrite monthly average effluent limitation. The Discharger stated that high nitrate plus nitrite is due to damaged membrane bioreactor (MBR) modules, which decreases the detention time in the denitrification process resulting in high nitrate plus nitrite in the effluent. The drinking water Maximum Contaminant Level (MCL) is the maximum concentration of a chemical that is allowed in public drinking water. The established MCLs by the U.S. Environmental Protection Agency (EPA) for nitrate and nitrite are 10 mg/L and 1 mg/L, respectively. Exposure to high levels of nitrate plus nitrite may cause serious health problems to aquatic species and human, such as the reduction of oxygen amount in the bloodstream. Elevated levels of nitrate and nitrite in drinking water have been known to cause a potentially fatal blood disorder in infants under six months of age called methemoglobinemia or "blue-baby" syndrome, and if untreated, may cause death. Therefore, the discharge from the Facility may have created a hazard to human health and aquatic life.

Finally, the Discharger violated the total coliform organism effluent limit. According to the Fact Sheet of the NPDES permit, "the undiluted effluent may be used for irrigation of food crops and/or for body-contact water recreation. Coliform organisms are intended as an indicator of the effectiveness of the entire treatment train and the effectiveness of removing other pathogens." The Discharger's continuing violation of the total coliform effluent limit puts the public at risk of disease and is an indicator that the Discharger's wastewater treatment system is not operating as intended and likely not removing other types of pathogens.

Because impacts are reasonably expected from toxicity, nitrate plus nitrite, and total coliform, it is appropriate to assign a "moderate" potential harm to beneficial uses. Hence, a score of 3 is assigned for this factor.

#### Factor 2: The Physical, Chemical, Biological or Thermal Characteristics of the Discharge.

A score between 0 and 4 is assigned based on a determination of the risk or threat of the discharged material. "Potential receptors" are those identified considering human, environmental, and ecosystem exposure pathways. The effluent was treated, however the damaged MBR modules did not filter adequately and the discharge contained elevated levels of nitrate plus nitrite and total coliform. Therefore, Regional Board staff considers the discharge to be partially treated at best. Elevated levels of these constituents can lead to low dissolved oxygen in the receiving water, impacts to aquatic life, and impacts to human health thereby posing a moderate risk or threat to potential receptors. It is appropriate to assign a "moderate" risk to this discharge and a score of 2 was assigned for this factor.

#### Factor 3: Susceptibility to Cleanup or Abatement.

A score of 0 is assigned for this factor if 50% or more of the discharge is susceptible to cleanup or abatement. A score of 1 is assigned if less than 50% of the discharge is susceptible to cleanup or



abatement. This factor is evaluated regardless of whether the discharge was actually cleaned up or abated by the discharger. In this case, less than 50% of the discharge was susceptible to cleanup or abatement as the wastewater entered Deuel Drain. Therefore, a factor of 1 is assigned.

#### Final Score – “Potential for Harm”

The scores of the three factors are added to provide a Potential for Harm score for each violation or group of violations. In this case, a **final score of 6** was calculated. The total score is then used in Step 2, below.

#### Step 2– Assessment for Discharge Violations

This step addresses administrative civil liabilities for the unauthorized discharge based on both a per-gallon and a per-day basis.

##### 1. Per Gallon Assessments for Discharge Violations

When there is a discharge, the Central Valley Water Board is to determine an initial liability amount on a per gallon basis using the Potential for Harm score and the Extent of Deviation from Requirement of the violation.

The Potential for Harm Score was determined in Step 1, and is 6. The Extent of Deviation is considered “major” because the WDRs prohibit the discharge of wastewater that exceeds effluent limits and the requirement has been rendered ineffective where the effluent has exceeded permit limits for total coliform and nitrate plus nitrite. Table 1 of the Enforcement Policy (p. 14) is used to determine a “per gallon factor” based on the total score from Step 1 and the level of Deviation from Requirement. For this particular case, the factor is 0.22. This value is multiplied by the volume of discharge and the per gallon civil liability, as described below.

The Complaint only assesses penalties for the four violations which took place between 1 January and 30 April 2016. Due to the persistent nature of the effluent limit violations, the penalty is based on the days and volume of wastewater discharged. The discharge volume is based on figures reported by CDCR in its self-monitoring reports for the period in which the violation occurred.

Date	Effluent limit violated	Monitoring Period	Volume discharged, gallons	Volume minus 1,000 gallons
12 January 2016	Total Coliform	7-Day Median	410,173 <sup>1</sup>	409,173
26 January 2016	Total Coliform	7-Day Median	443,858 <sup>1</sup>	442,858
9 February 2016	Total Coliform	7-Day Median	417,126 <sup>1</sup>	416,126
31 March 2016	Nitrite Plus Nitrate (as N)	Monthly Average	409,768 <sup>2</sup>	408,768
13 April 2016	Total Coliform	7-Day Median	430,516 <sup>1</sup>	429,516
27 April 2016	Total Coliform	7-Day Median	370,949 <sup>1</sup>	369,949
30 April 2016	Nitrite Plus Nitrate (as N)	Monthly Average	393,659 <sup>2</sup>	392,659
<b>TOTAL:</b>			2,876,049	2,869,049

<sup>1</sup> Total daily volume of the day which the sample was collected.

<sup>2</sup> Average discharge, on a daily basis, for the month.

The Complaint assesses penalties for the 2,876,049 gallons of wastewater discharged on the days during which effluent limitations were exceeded. Water Code section 13385(c)(2) states that the civil liability amount is to be based on the number of gallons discharged—but not cleaned up—over 1,000

gallons discharged. That volume is 2,869,049. The maximum civil liability allowed under Water Code section 13385 on a per gallon basis is \$10/gallon. The Enforcement Policy allows for a reduced per gallon penalty for high volume discharges. Given this discharge can be considered partially treated, the Prosecution Team chose to apply a reduced per volume factor of \$2/gallon.

Therefore, the Per Gallon Assessment is calculated as:

**Violation 2: Discharge Liability**

$$0.22 \times 2,869,049 \text{ gallons} \times \$2 \text{ per gallon} = \$1,262,382$$

**2. Per Day Assessments for Discharge Volumes**

When there is a discharge, the Central Valley Water Board is to determine an initial liability amount on a per day basis using the same Potential for Harm and the Extent of Deviation from Requirement that were used in the per-gallon analysis. The “per day” factor (determined from Table 2 of the Enforcement Policy) is 0.22.

On three occasions, the Discharger exceeded the effluent limit for total coliform as a 7-day median. For each of these three violations, the Discharger was assumed to be in violation for only the day the sample was collected as opposed to the entire seven days. The Discharger also exceeded the monthly average limit for nitrate plus nitrite. The Discharger was assumed to be in violation for one day of the entire month. The total number of days of violation for these effluent limit exceedances is 7 days.

Water Code section 13385(c)(1) states that civil liability shall not exceed \$10,000 per day of violation.

**Violation 2: Per Day Liability**

$$0.22 \times 7 \text{ days} \times \$10,000 \text{ per day} = \$15,400$$

**Initial Liability Amount:** The value is determined by adding together the per gallon assessment and the per day assessment.

**Violation 2: Initial Liability**

$$\$1,262,382 \text{ per gallon assessment} + \$15,400 \text{ per day assessment} = \$1,277,781$$

**Step 3 – Per Day Assessment for Non-Discharge Violation**

This step is not applicable.

**Step 4B – Adjustment Factors**

There are three additional factors to be considered for modification of the amount of initial liability: the violator’s culpability, efforts to clean-up or cooperate with regulatory authority, and the violator’s compliance history. After each of these factors is considered for the violations involved, the applicable factor should be multiplied by the proposed amount for each violation to determine the revised amount for that violation.

#### Culpability

The Discharger constructed a Reverse Osmosis (RO) Plant to remove salt from its domestic water supply, provide higher quality drinking water to the inmates, and produce a higher quality effluent discharge from the Facility. When the RO Plant is not operational or not operating at its optimal condition, constituents that pose a concern to water quality are discharged in concentrations that the Facility cannot properly treat. In a letter from Siemens' project manager, Siemens observed in 2011 that debris that had been accumulating on the membrane bioreactor (MBR) modules. Siemens cautioned CDCR that the lack of maintenance and cleaning of the membranes could have damaged the membranes and reduced its long term integrity. Trash and debris was again observed during a 25 January 2013 inspection by a service technician. In a letter from Evoquo Water Technologies dated 24 July 2014, CDCR was once again cautioned that the membranes collected trash and debris. The lack of operation of the RO plant, coupled with the lack of proper cleaning of the membranes, have caused the modules to lose efficiency over a period of years, and eventually, the modules can no longer be cleaned sufficiently to properly operate. A higher culpability factor is appropriate because CDCR was aware of the risk of not properly maintaining the membrane bioreactor modules and chose not to employ adequate measures and processes to prevent the accumulation of trash and debris which likely severely impaired the functionality and effectiveness of the membranes. The compromised membranes prevented CDCR from adequately treating its wastewater thereby resulting in pollution to Deuel Drain. A factor of 1.3 is conservatively applied.

#### Cleanup and Cooperation

The Regional Board Prosecution Team has engaged in several meetings with CDCR to discuss compliance, however, this compliance assistance process has been insufficient. CDCR staff expressed the desire to comply contending that they "have taken every step necessary to correct the deficiency." (see Letter from Alan Price dated January 28 2016). However, CDCR has not complied with key requirements and actions in the CAO which were prescribed to improve its wastewater treatment system. Despite the numerous attempts to work cooperatively with CDCR, the Discharger continues to pollute Deuel Drain by discharging wastewater that contains constituents which exceed the mandatory limits protective of Deuel Drain's beneficial uses. A factor of 1.2 is conservatively applied.

#### History of Violation

See the history of violation rationale for Violation 1. A factor of 1.4 is appropriate.

Therefore, the total penalty for the effluent limitation violations is calculated as:

#### **Violation 2: Total Base Liability**

Initial Liability x Culpability Multiplier x Cleanup and Cooperation Multiplier x History of Violations  
Multiplier = Total Base Liability  
 $\$1,277,781 \times 1.3 \times 1.2 \times 1.4 = \$2,790,674$

#### **Violation #3: Failure to Properly Operate and Maintain Facilities and Systems**

### **Background for Violation #3:**

Standard Provision I.D of WDRs Order R5-2014-0014-01 states in part: "The Discharger shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Discharger to achieve compliance with the conditions of this Order . . . This provision requires the operation of backup or auxiliary facilities or similar systems that are installed by a Discharger only when necessary to achieve compliance with the conditions of this Order." The Discharger has delayed upgrades and maintenance to the wastewater treatment plant thereby further causing pollution to the Deuel Drain. In particular, the CAO required that the Discharger replace the MBR modules by 31 March 2016. However, as of 1 May 2016, the modules have not been replaced.

#### **Step 1 – Potential for Harm for Discharge Violations**

The Prosecution Team is not alleging a discharge violation; therefore, the evaluation of this factor has been omitted from the following calculation.

#### **Step 2 – Assessment for Discharge Violations**

The Prosecution Team is not alleging a discharge violation; therefore, the evaluation of this factor has been omitted from the following calculation.

#### **Step 3 – Per Day Assessment for Non-Discharge Violations**

The "per day" factor is calculated for each non-discharge violation considering the (a) potential for harm and (b) the extent of the deviation from the applicable requirements.

##### **Potential for Harm**

The Enforcement Policy requires a determination of whether the characteristics of the violation resulted in a minor, moderate, or major potential for harm or threat to beneficial uses. In this case, a "Moderate" potential for harm is appropriate because the discharge of partially treated wastewater presents a substantial threat to beneficial uses. Here, the failure to replace the MBR modules has resulted in partially treated wastewater which contained elevated levels of nitrate plus nitrite above the maximum contaminant levels allowed for drinking water, as well as total coliform organisms. The Discharger's continuing violation of the total coliform effluent limit puts the public at risk of disease and is an indicator that the Discharger's wastewater treatment system is not operating as intended and likely not removing other types of pathogens.

The deviation from requirement is "Major." The Discharger's WDRs require that it "properly operate and maintain all facilities and systems of treatment and control." (Standard Provision I.D.) In addition, the Discharger is required to operate a backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of this Order. *Id.* While the RO plant was installed to remove contaminants and provide potable water, its lack of operation has severely impaired the quality of wastewater discharged into the Wastewater Treatment Plant, and coupled with the Discharger's lack of proper operation and maintenance, has impaired the membrane bioreactor at the WWTP. The manual operation of the membrane bioreactor decreases the detention time in the denitrification process resulting in high nitrate plus nitrite in the effluent. The presence of total coliform in the effluent indicates that the treatment system is not operating as intended to properly treat waste constituents. The manufacturer of the membrane bioreactor, Siemens, recommended in its Operations and Maintenance Manual that the membranes be removed and cleaned at least once per year. The Discharger admitted that cleaning was delayed and the membranes were not properly pulled and cleaned for 2.5 years. In addition, the Discharger had not yet developed standard operating procedures (SOPs) for proper

operation and maintenance of the WWTP, including the necessity of training new operators. (See Regional Board staff Inspection Report dated 28 February 2015). The Discharger disregarded the requirement in its WDRs to properly operate and maintain its WWTP, warranting an assessment of a "Major" deviation from the requirement.

Using Table 3 in the Enforcement Policy, the Per Day Factor of 0.55 is assigned. This value is to be multiplied by the days of violation and the maximum per day penalty, as shown in the Initial Liability table below.

#### Days of Violation

The period of this violation of the NPDES permit extends back to in or around September 2011, when Siemens noted that debris accumulated in the membranes and pointed out concerns over the long term integrity of the membrane modules due to a lack of proper maintenance. However, for purposes of this action, the days of violation are calculated from the date the CAO requires replacing the membrane bioreactor (MBR) modules, which is 31 March 2016. As of 1 May 2016, the modules have not been replaced; therefore there is a total of 30 days of violation.

#### **Violation 3: Initial Liability**

$$(0.55 \text{ factor from Table 3}) \times (30 \text{ days}) \times (\$10,000/\text{day}) = \$165,000$$

#### **Step 4A – Adjustment Factors**

There are three additional factors to be considered for modification of the amount of initial liability: the violator's culpability, efforts to clean-up or cooperate with regulatory authority, and the violator's compliance history. After each of these factors is considered for the violations involved, the applicable factor should be multiplied by the proposed amount for each violation to determine the revised amount for that violation.

#### Culpability

See culpability discussion under Violation 2. A score of 1.3 was conservatively assessed.

#### Cleanup and Cooperation

See Cooperation discussion under Violation 2. A score of 1.2 was conservatively assessed.

#### History of Violation

See History of Violation discussion under Violation 2. As score of 1.4 was assessed.

#### **Violation 3- Total Base Liability**

Initial Liability x Culpability Multiplier x Cleanup and Cooperation Multiplier x History of Violations Multiplier = Total Base Liability

$$\$165,000 \times 1.3 \times 1.2 \times 1.4 = \$360,360$$

As described below in the "Maximum Liability" discussion, the maximum liability allowed by the California Water Code for violation #3 is \$300,000. Although the Penalty Calculation Methodology produced a higher penalty amount, the penalty is capped at the maximum allowed for by statute, or \$300,000.

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### **Step 5 - Determination of Total Base Liability Amount**

The Total Base Liability is the sum of the liabilities for Violations 1 through 3.

<b>Total Base Liability Amount</b>
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$\$946,946 \text{ (Violation 1)} + \$2,790,674 \text{ (Violation 2)} + \$300,000 \text{ (Violation 3)} = \$4,037,620$
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### **Step 6 - Ability to Pay and Ability to Continue in Business**

The ability to pay and to continue in business factor must be considered when assessing administrative civil liabilities. The California Department of Correction and Rehabilitation is a state agency with a Fiscal Year 16-17 budget of over \$10 billion<sup>1</sup>. As such, it should have the ability to pay a penalty in the millions of dollars.

### **Step 7 – Other Factors as Justice May Require**

The costs of investigation and enforcement are “other factors as justice may require,” and could be added to the liability amount. The Central Valley Water Board incurred over \$37,500 (250 hours at a statewide average of \$150/hour) in staff costs associated with the investigation and enforcement of the violations alleged herein. The Prosecution Team, in its discretion, is not recommending an increase in the Total Base Liability amount in consideration of these costs incurred as the proposed liability amount serves as a sufficient general and specific deterrent against future violations.

### **Step 8 – Economic Benefit**

Pursuant to Water Code section 13385(e), civil liability, at a minimum, must be assessed at a level that recovers the economic benefit of noncompliance derived from the acts that constitute the violation. The economic benefit of noncompliance for the violations is estimated at \$2,084,774 (see Exhibit 1 to this document).

### **Final adjusted liability**

The final adjusted liability is \$4,037,620.

### **Step 9 – Maximum and Minimum Liability Amounts**

The maximum and minimum amounts must be determined for comparison to the proposed liability.

**Maximum Liability Amount:** The maximum penalty is the sum of the statutory penalties for Violations 1, 2 and 3.

Violation 1, the failure to submit technical reports, is a violation of Water Code section 13268. The maximum penalty is \$1,000 per day for 1,979 days, or \$1,979,000.

Violation 2, the discharge of partially treated or toxic wastewater, is a violation of Water Code section 13385. As described in this section, civil liability may not exceed \$10,000 per day of violation, plus \$10 per gallon for each gallon of waste discharged over 1,000 gallons. The discharge took place over 7

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<sup>1</sup> Source: <http://www.cdcr.ca.gov/Budget/>

days, and therefore the maximum per-day penalty is \$70,000. A total of 2,876,049 gallons were discharged during the seven days of violation; of this amount, 2,869,049 gallons were discharged over 1,000 gallons per discharge event. The maximum per-gallon penalty is \$28,690,490. The maximum civil penalty is the sum of the per-day and per-gallon penalties, or \$28,760,490.

Violation 3, the failure to properly operate and maintain facilities and systems, is a violation of Water Code section 13385. The maximum penalty is \$10,000 per day for 30 days, or \$300,000. Although the Penalty Calculation methodology produced a higher value, the maximum penalty is capped at \$300,000.

Therefore, the maximum liability for Violations 1, 2 and 3 is \$31,039,490.

Minimum Liability Amount: The minimum liability is equal to the economic benefit of noncompliance plus 10%, which is estimated to be \$2,293,251.

**Step 10 – Final liability Amount**

The final liability amount consists of the added amounts for each violation, with any allowed adjustments, provided amounts are within the statutory minimum and maximum amounts. The proposed administrative civil liability is \$4,037,620.

Exhibit 1: Economic Benefit Analysis